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AUTHOR Thurlow, Martha L.; Ysseldyke, James E.
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ABSTRACT

Four groups of educational decision makers rated the influence of nine pieces of information on the decsions they made about the educational placement of a handicapped elementary class child. Information regarding the sex, socioeconomic status (SES), and physical attractiveness of the student had an insignificant effect on decisions. Information on academic scores was believed to have a greater influence, with achievement and intelligence scores having a significant effect. Findings are reviewed in light of the recent demonstration that child characteristics such as sex, SES, and attractiveness did influence decisions. (Author)

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University of Minnesota

Research Report No. 25

FACTORS INFLUENTIAL ON THE PSYCHOEDUCATIONAL DECISIONS REACHED BY TEAMS OF EDUCATORS

Martha L. Thurlow and James E. Ysseldyke

Institute for Research on Learning Disabilities

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Director: James E. Ysseldyke

Associate Director: Phyllis K. Mirkin

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I. Adequacy of Norm-Referenced Data for Prediction of Success

II. Computer Simulation Research on the Assessment/Decision-making/Intervention Process

III. Comparative Research on Children Labeled LD and Children Failing Academically but not Labeled LD

IV. Surveys on In-the-Field Assessment, Decision Making, and Intervention

V. Ethological Research on Placement Team Decision Making

VI. Bias Following Assessment

VII. Reliability and Validity of Formative Evaluation Procedures

VIII. Data-Utilization Systems in Instructional Programming

Additional information on these research areas may be obtained by writing to the Editor at the Institute.

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February, 1980

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Abstract

Four groups of educational decision makers rated the influence of nine pieces of information on the decisions they made about the educational placement of a child. Information regarding the sex, socioeconomic status, and physical attractiveness of the student were seen as having an insignificant effect on decisions. Information on academic scores was believed to have a greater influence, with achievement and intelligence scores having a significant effect. These findings are reviewed in light of the recent demonstration that child characteristics such as sex, SES, and attractiveness did influence decisions reached by one of the groups included in this study.

Factors Influential on the Psychoeducational Decisions Reached by Teams of Educators

Public Law 94-142 requires that teams of educators and other relevant individuals reach consensus as a group on a child's eligibility for special services, the appropriate placement of that child, and the specific individual education plan (IEP) to meet the child's needs. Surveys of current assessment and decision-making practices (Poland, Ysseldyke, Thurlow, & Mirkin, 1979; Thurlow & Ysseldyke, 1979) indicate that the teams involved in making such decisions are multidisciplinary in composition, usually including an average of seven different members.

When attempting to reach an appropriate decision for a particular student, educational decision makers are exposed to a massive amount of data upon which the decision supposedly is to be based. In addition to test data, decision makers are aware of other characteristics of the child, such as sex, socioeconomic status, and physical appearance. Surveys of placement team meetings conducted in elementary schools during 1978-79 suggested that much of the time in a typical meeting was devoted to the presentation of results of the child's performance on a variety of tests (Allen, Note 1). Very often, the data presented are derived from devices with inadequate technical adequacy (Thurlow & Ysseldyke, 1979; Ysseldyke, Algozzine, Regan, & Potter, 1979).

Numerous researchers have addressed the issues of the effect of child characteristics on educators. Such characteristics have biased decisions throughout the decision-making process (Ysseldyke, 1978). Ross and Salvia (1975) demonstrated that a child's facial appearance

influenced placement decisions made for the child. A child's social class may affect the nature of interactions between the child and assessor and the assessor's behavior toward the child (Ysseldyke & Algozzine, 1979); evidence indicates that the assessor's behavior during an evaluation may influence the outcome of that evaluation (Masling, 1957). Others have demonstrated that a child's sex influences the interpretations of the behaviors demonstrated by the child (Adams & LaVoie, 1974; Schlosser & Algozzine, 1979).

Large amounts of information are provided to teams of decision makers. They must sort through the data and judge the importance of the various pieces of information for the decisions to be made. The determination of what information is most relevant is especially pertinent in the area of learning disabilities, where there has been difficulty even in reaching consensus as to the definition of a learning disability (Mercer, Forgnone, & Wolking, 1976; Thurlow & Ysseldyke, 1979). Ysseldyke and Algozzine (1979) propose that LD remains a category of underachievement, despite "numerous attempts to create a more sophisticated disability" (p. 4). Commonly used criteria for identifying a learning disability have been critized (Algozzine & Sutherland, 1977). Yet, team decision making is mandated. Teams must review the data available to them and make their decisions. Teams in schools across the nation are making decisions about the placement of LD children based on the information available to them.

The purpose of the present research was to characterize the influence of several types of information typically available to members of such school-based decision-making teams. A special sampling methodology was employed to provide a broad data base, and to address issues related to

different methodologies that might be used to ascertain the influence of the various types of information.

Method

Design

Four different methodologies were used to gather data on the extent to which different types of data influenced or were perceived as influencing the decision-making process.

A computer simulation of the decision-making process was used in the first investigation. Decision makers received basic data on the characteristics of referred students, engaged in simulated assessment by accessing data of their choice from the computer archives, and then made a series of decisions about the referred student. Following completion of the decision making, subjects were asked to state the extent to which specific test scores and information and specific student characteristics had influenced their decisions.

The second investigation used a questionnaire methodology in which a national sample of directors of special education was asked to indicate, on the basis of their experience in participating in team decision-making meetings, the extent to which specific kinds of assessment information and specific student characteristics influenced outcome decisions.

In the third study, data were collected from placement team meeting participants immediately following a team meeting. Again, participants were asked to indicate the extent to which specific kinds of assessment information and specific student characteristics had influenced the decisions that were made.

Study 4 used a self-report methodology in which a group of decision makers were asked, on the basis of their experience, to report the extent to which specific kinds of test information and specific student characteristics influenced outcome decisions.

In all four studies, the same question was asked. The item is listed in Appendix A. Subjects in Study 1 responded to the question on a Telray computer terminal, while those in studies 2 through 4 responded in a paper and pencil format.

Subjects

A total of 536 individuals participated in the four studies. All individuals had been participants previously in team decision-making meetings.

In Study 1, 224 educational personnel completed a simulated decision-making exercise. All were volunteers from the greater Minneapolis/St. Paul metropolitan area, and all had served previously on at least two placement teams. Occupational groups represented in the sample included administrators, regular education teachers, special education teachers, school psychologists, and support personnel (e.g., nurses, counselors, social workers, etc.). Demographic data on the 224 participants are reported in Appendix B.

Subjects for Study 2 were 89 directors of special education from 49 states. They represented school districts of varying size (100 to 50,000 elementary pupils), type of community (urban, suburban, rural), and special education budget ($372.00/student to $7591.00/student).

A total of 159 members of placement teams in Minnesota and North Dakota comprised the sample for Study 3. These individuals responded to questions on the influence of scores and pupil characteristics immediately following completion of a team meeting.

Subjects for Study 4 were 64 practicing school psychologists or educational diagnosticians from Virginia.

Procedures

Subjects completed the influence item at various times throughout the 1978-79 academic year. Computer simulation subjects completed the item after reaching eligibility and placement decisions about a child. The child's characteristics were presented to the subjects in a case file report. The child's test scores were accessed by the subject via the computer terminal. The subject was allowed to select the specific devices from which information was desired as well as the amount of information provided (e.g., scores only; description of test; qualitative information about test performance). The influence item was one of nine items in the final portion of the computer simulation program.

Special education directors completed the influence item as part of a questionnaire on the decision-making procedures in their school districts. Other items in the questionnaire asked the directors to provide demographic information about their school districts, specify the individuals involved in making several types of educational decisions, describe the typical sequence of decision-making activities, and list the major problems encountered in the decision-making/IEP development process.

Placement team members completed the influence item after participating in an actual placement meeting. In some cases, the subjects' participation in the meeting had been videotaped by researchers. In other cases, subjects completed the item after videotaping the meeting themselves, without researchers present.

The subjects for Study 4 completed the influence item before listening to a presentation on current issues in assessment and decision making. They were instructed to complete the item by considering the factors' influence in typical meetings they attended.

Results

Because of the large sample sizes, which are conducive to the finding of significant differences for relatively small differences in ratings, an additional criterion was applied following standard statistical tests to separate out trivial differences. Only mean differences of 0.5 or greater on the rating scale were considered as important. Such a difference represented a 10 percent unit difference on the five-point rating scale.

The overall ratings of the influence of child characteristics and test scores by the four groups of subjects are presented in Table 1.

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Insert Table 1 about here

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A repeated measures ANOVA on these data indicated that there were significant differences between the ratings of the subject groups, F (3,520) = 21.80, $p < .001$, between the two types of information F (1,520) = 2116.75, $p < .001$, and a significant interaction between the subject

groups and types of information, F (3,520) = 11.30, $p < .001$. Clearly, academic scores, with a mean rating of 2.44, were seen as having much greater influence on the decision than child characteristics, with a mean rating of 4.16. The significant group effect was tested by means of Student-Newman-Keuls post hoc analysis. Overall, the factors had significantly greater influence in the Virginia sample than they did in the other subject groups (p's < .05); they had significantly less influence for the team members (p's < .05). There was no statistically significant difference between the overall ratings of special education directors and simulation subjects. Only the difference between the Virginia sample and the team members exceeded the 0.5 criterion for a meaningful difference.

Figure 1 portrays the significant interaction effect. The relationships between ratings of child characteristics and academic scores were essentially parallel for the special education directors, team members, and Virginia sample; for simulation subjects there was a smaller difference between the ratings given to the two types of information.

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Insert Figure 1 about here

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The ratings of the influence of different types of child characteristics by the four subject groups are presented in Table 2. Overall, the ratings suggested the effect of child characteristics was insignificant. A repeated measures ANOVA indicated that there were significant differences between the ratings of the subject groups, F (3,520) = 22.00, $p < .001$, and between the child characteristic ratings, F (2,1040) = 40.29, $P < .001$. Student-Newman-Keuls post hoc analyses indicated the same difference in child characteristic ratings as indicated in overall ratings:

the Virginia sample indicated a significantly greater effect ($p < .05$), team members a significantly lower effect ($p < .05$), and special education directors' and simulation subjects' ratings essentially were the same. The important differences (i.e., > 0.5) were between the Virginia sample and both the special education directors and the team members. Related t test post hoc analyses indicated that: (a) SES was seen as having a greater influence on the decision than sex or attractiveness (p's < .001), and (b) attractiveness was seen as having a greater influence on the decision than sex ($p < .001$). None of these differences reached the established criterion for significance.

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Insert Table 2 about here

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The ratings of the influence of different types of academic scores by the four subject groups are presented in Table 3. A repeated measures ANOVA on these data indicated that there were significant differences between the ratings of the subject groups, F (3,520) = 12.62, $p < .001$, between the test score ratings, F (5,2600) = 34.32, $p < .001$, and a significant interaction between the subject groups and test scores, F (15,2600) = 7.93, $p < .001$. Student-Newman-Keuls post hoc analysis of the subject group effect indicated that team members and simulation subjects gave similar ratings and the Virginia sample and special education directors also gave similar ratings. The ratings of team members and simulation subjects were significantly higher than those of the Virginia sample and special education directors. None of the group differences met the 0.5 criterion for significance.

Related t test post hoc analyses indicated that all comparisons among types of scores were significant except that between perceptual-motor test scores and adaptive behavior test scores. In terms of practical significance, however, IQ and achievement were not different. Both had a practically significant greater influence than language, adaptive behavior, and perceptual-motor scores. In addition, achievement scores were rated as having a greater influence than behavioral recordings. The difference between IQ scores and behavioral recordings was considered to be trivial.

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Insert Table 3 about here

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Figure 2 portrays the significant interaction effect. The relationships among the ratings of different academic scores were essentially the same for simulation subjects and placement team members and for special education directors and the Virginia sample. The latter two groups exhibited nearly flat curves while the simulation subjects and placement team members exhibited curves more consistent with the overall differences found between the six types of academic test scores.

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Insert Figure 2 about here

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Discussion

Individuals involved in making decisions about students are exposed to a variety of information. Some of the information is collected

specifically to help in the decision-making process. Other information is available to decision makers, even when it is supposedly not to be a factor in the decision. Persons involved in making placement decisions appear to have clear notions as to the effects of various types of information in the decisions they reach.

The decision makers in the present investigation believed that academic scores had a much greater influence on their decisions than did child characteristics. When considering child characteristics, SES was seen as having the greatest influence; yet this difference did not reach the established criterion for practical significance. In addition, the SES factor was still rated as having an insignificant effect. When considering academic scores, achievement and intelligence scores were rated as having the greatest influence. Both types of scores received overall average ratings indicating a significant effect, a finding which suggests that underachievement does play an important role in decisions (cf. Ysseldyke & Algozzine, 1979).

While all participants in the present analysis were individuals involved in decision-making processes, the degree to which they were involved before rating the various factors varied greatly. The Virginia sample and the special education directors had not been involved in making an actual decision before rating the influence of the factors. Computer simulation subjects had just made a decision about a student, but under contrived conditions and for a hypothetical child. Placement team members had been involved in making a real team decision about an actual child about whom they probably knew something more than what had

been presented to them.

In light of these differences in the subject groups, it is interesting that relatively few differences of practical significance were observed. These differences emerged in the overall mean ratings and in the mean ratings of child characteristics. In both cases, the Virginia sample gave lower ratings than the team members. For child characteristics, the Virginia sample ratings also were lower than those of the special education directors. No differences of practical significance emerged among the groups for ratings of academic scores. These results point to the validity of the computer simulation approach to studying decision making, and also to the representativeness of the ratings of one group of administrators (special education directors) when using all placement team members as the criterion sample.

The similarity of the computer simulation subjects' ratings and those of the other groups, however, leads to questions regarding the actual influence of the factors in decisions. All groups indicated that the influence of child characteristics on decisions was minimal. Yet, analysis of the influence of such characteristics on placement and prognostic decisions by computer simulation subjects revealed that information on a child's sex, SES, physical appearance, and referral problem did influence the decisions reached (Algozzine & Ysseldyke, 1979; Ysseldyke, Algozzine, Regan, & McGue, 1979). Others (Adams & Cohen; Finn, 1972; Kehle, 1974) have suggested that while a particular child characteristic may not demonstrate a statistically significant main effect, complex interactions of child characteristics and other information bias perceptions and expectations.

Such findings imply that decision makers may not realize that many

factors, other than those they are discussing, do influence their decisions. Perhaps the recognition that child characteristics do influence decisions in many cases would help decision makers deal objectively with the possible biases these factors may be introducing into their decisions. The effectiveness of training courses and programs for decision makers, similar to those proposed by Braun (1976) for teachers, should be investigated.

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Table 1

Ratings of Significance of Effect of Child Characteristics and Academic Scores on Decisions by Four Groups[a]

Group	Child Characteristics	Academic Scores	Average
Simulation Subjects	4.07 (0.75)	2.54 (0.59)	3.30 (0.55)
Special Ed. Directors	4.20 (0.60)	2.25 (0.44)	3.23 (0.38)
Team Members	4.48 (0.57)	2.56 (0.72)	3.52 (0.53)
Virginia Sample	3.70 (0.78)	2.14 (0.50)	2.92 (0.45)
Combined	4.16 (0.68)	2.44 (0.59)	

[a]Entries are means and standard deviations of subjects' mean ratings, where 1 = very significant effect, 2 = significant effect, 3 = moderate effect, 4 = insignificant effect, 5 = no effect.

Table 2

Ratings of Significance of Effect of Specific Child Characteristics on Decisions by Four Groups[a]

Group	SES	Attractiveness	Sex	Average
Simulation Subjects	3.89 (1.07)	4.06 (1.05)	4.25 (0.98)	4.07 (1.03)
Special Ed. Directors	3.92 (0.91)	4.19 (0.82)	4.50 (0.71)	4.20 (0.81)
Team Members	4.36 (0.96)	4.44 (0.90)	4.64 (0.65)	4.48 (0.84)
Virginia Sample	3.30 (1.09)	3.72 (0.93)	4.08 (1.07)	3.70 (1.03)
Combined	3.96 (1.01)	4.15 (0.95)	4.38 (0.85)	

[a] Entries are rating means and standard deviations, where 1 = very significant effect, 2 = significant effect, 3 = moderate effect, 4 = insignificant effect, 5 = no effect.

Table 3

Ratings of Significance of Effect of Various Types of

Academic Scores by Four Groups[a]

Group	IQ	Achievement	Language	Perceptual Motor	Adaptive Behavior	Behavioral Recordings	Average
Simulation Subjects	2.08 (0.87)	1.79 (0.82)	3.09 (1.25)	2.82 (1.28)	2.98 (1.40)	2.45 (1.18)	2.54 (1.13)
Special Ed. Directors	2.17 (0.83)	2.07 (0.78)	2.37 (0.83)	2.19 (0.81)	2.36 (0.68)	2.34 (0.72)	2.25 (0.78)
Team Members	2.35 (1.25)	1.98 (1.04)	2.90 (1.37)	3.18 (1.46)	2.51 (1.15)	2.45 (1.15)	2.56 (1.24)
Virginia Sample	1.84 (0.72)	1.98 (0.72)	2.45 (0.99)	2.11 (0.80)	2.12 (0.86)	2.30 (0.81)	2.13 (0.82)
Combined	2.14 (0.89)	1.91 (0.86)	2.84 (1.19)	2.73 (1.19)	2.64 (1.14)	2.41 (1.05)	

[a] Entries are rating means and standard deviations, where 1 = very significant effect, 2 = significant effect, 3 = moderate effect, 4 = insignificant effect, and 5 = no effect.

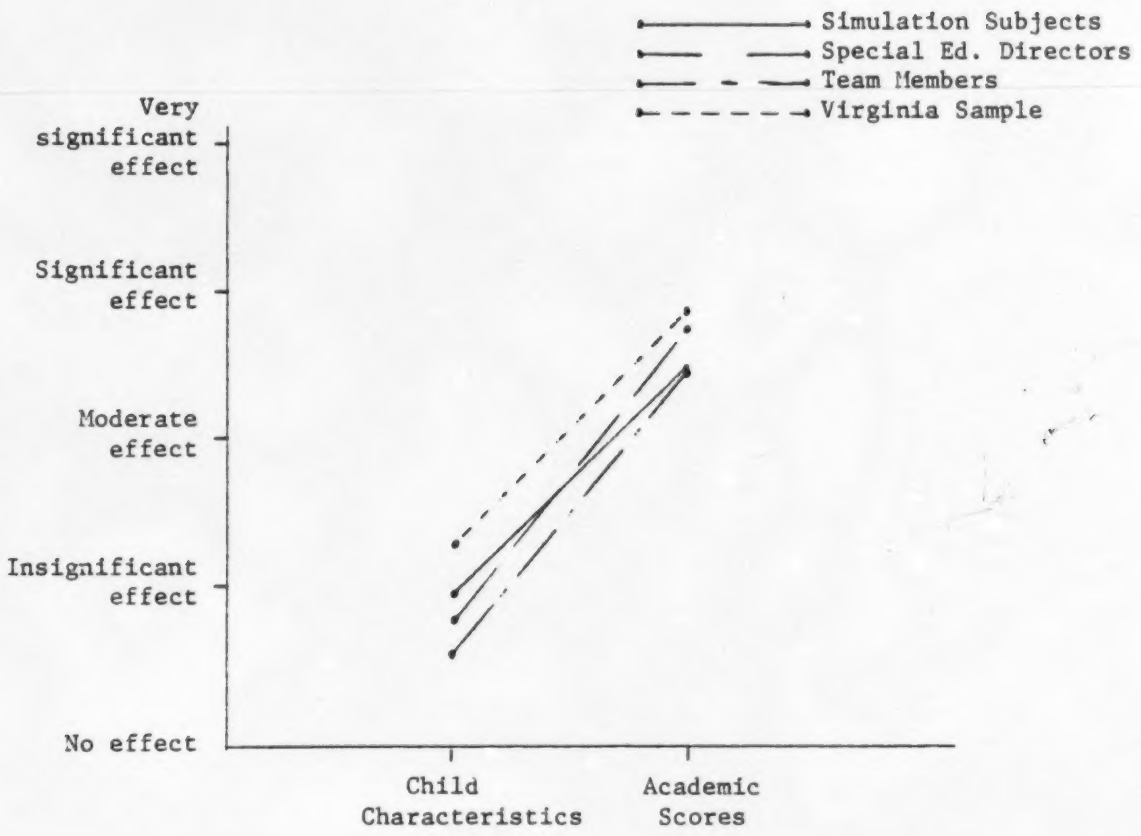

Figure 1. Interaction effect between subject group and type of information.

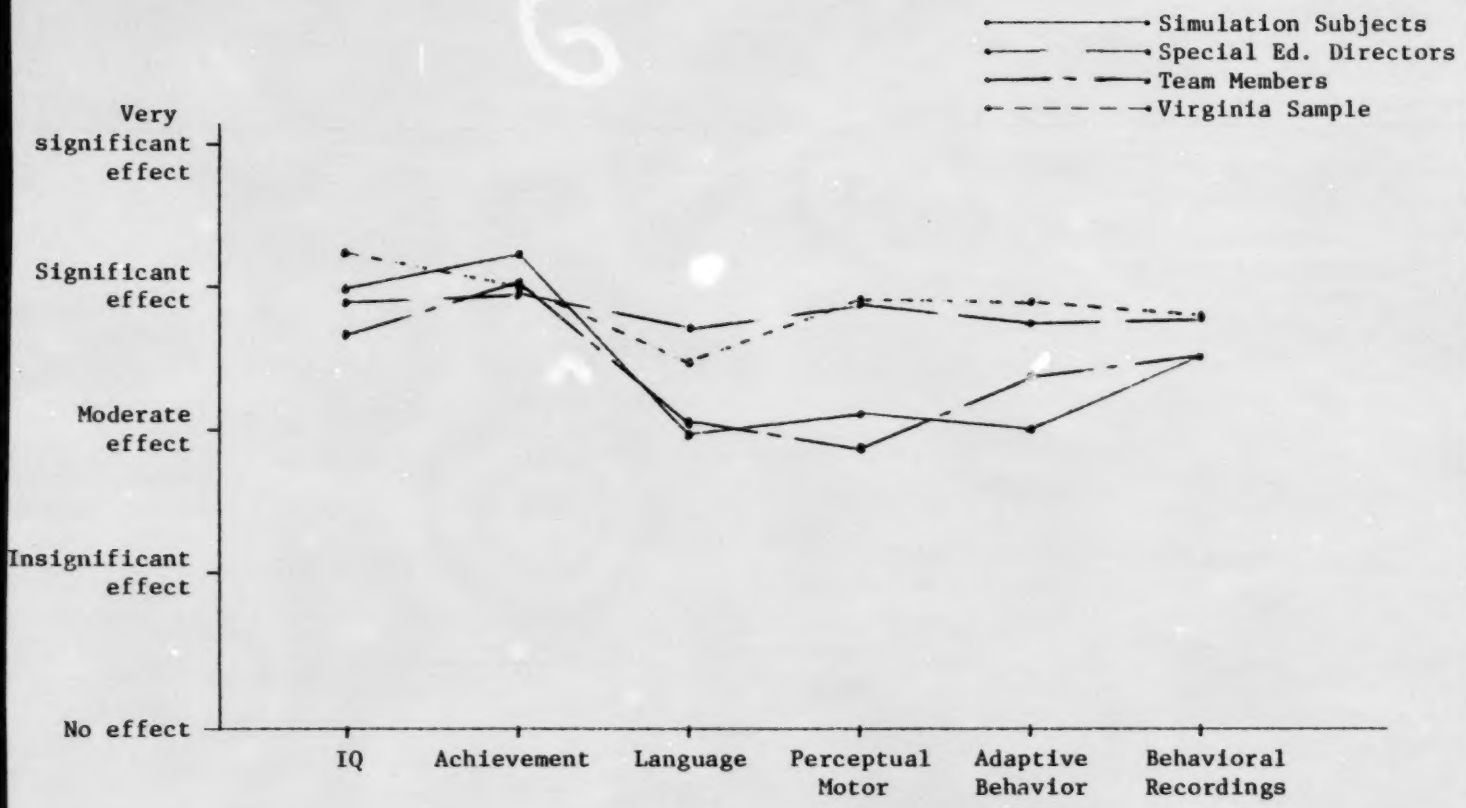

Figure 2. Interaction effect between subject group and type of academic score.

Appendices

Appendix A

Basic Wording of Influence Item

Please rate the extent to which each of the factors listed below affected your decisions. Use the following numbers to indicate the effect of each factor.

1 = None 2 = Insignificant 3 = Moderate 4 = Significant 5 = Very Significant

____ Scores on intellectual measures

____ Scores on measures of academic achievement

____ Child's sex

____ Child's socioeconomic status

____ Scores on perceptual-motor tests

____ Adaptive behavior

____ Behavioral recordings

____ Child's physical appearance

____ Scores on language tests

Appendix B

Demographic Data on Computer Simulation Participants

Sex: Male - 57 Female - 167

Age: $\bar{X}$ = 38.4 yrs (Range: 23-65 yrs)

School District Community: Urban - 15 Suburban - 184 Rural - 20

Regular Class Teaching Experience: $\bar{X}$ = 6.4 yrs (Range: 0-32 yrs)

Exceptional Children Teaching Experience: $\bar{X}$ = 3.7 yrs (Range: 0-28 yrs)

Non-teaching Support Service Experience: $\bar{X}$ = 3.2 yrs (Range: 0-23 yrs)

Number Special Education Courses Taken: $\bar{X}$ = 8.0 (Range: 0-25)

Number Statistics Courses Taken: $\bar{X}$ = 1.3 (Range: 0-8)

Number Assessment/Measurement Courses Taken: $\bar{X}$ = 2.3 (Range: 0-12)

Highest Earned Degree: BA - 107 MA - 96 PhD - 12

Number Graduate Courses Taken Since Last Degree: $\bar{X}$ = 9.8 (Range: 0-40)

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